M Zakaullah

List of Publications by Year
in descending order

145 papers	3,674 citations	101543 36 h-index	175258 52 g-index
145 all docs	145 docs citations	145 times ranked	1302 citing authors

#	Article	IF	Citations
1	A simple facility for the teaching of plasma dynamics and plasma nuclear fusion. American Journal of Physics, 1988, 56, 62-68.	0.7	253
2	Optical emission spectroscopy of Arâ€“N2 mixture plasma. Journal of Quantitative Spectroscopy and Radiative Transfer, 2007, 107, 361-371.	2.3	88
3	Validity of â€œsputtering and re-condensationâ€•model in active screen cage plasma nitriding process. Applied Surface Science, 2013, 273, 173-178.	6.1	87
4	Nitridation of zirconium using energetic ions from plasma focus device. Thin Solid Films, 2008, 516, 8255-8263.	1.8	86
5	Plasma focus as a possible x-ray source for radiography. Plasma Sources Science and Technology, 2005, 14, 61-69.	3.1	83
6	Effects of anode shape on plasma focus operation with argon. Plasma Sources Science and Technology, 1996, 5, 544-552.	3.1	80
7	Enhanced surface properties of aluminum by PVD-TiN coating combined with cathodic cage plasma nitriding. Surface and Coatings Technology, 2017, 327, 59-65.	4.8	72
8	Comparative study of ion, x-ray and neutron emission in a low energy plasma focus. Plasma Sources Science and Technology, 1998, 7, 206-218.	3.1	68
9	Imaging of fusion reaction zone in plasma focus. Physics of Plasmas, 1999, 6, 3188-3193.	1.9	68
10	Synthesis of nanocrystalline multiphase titanium oxycarbide (TiCxOy) thin films by UNU/ICTP and NX2 plasma focus devices. Applied Physics A: Materials Science and Processing, 2008, 90, 669-677.	2.3	66
11	Optical Emission Spectroscopy of Abnormal Glow Region in Nitrogen Plasma. Plasma Chemistry and Plasma Processing, 2005, 25, 551-564.	2.4	65
12	Scope of plasma focus with argon as a soft X-ray source. IEEE Transactions on Plasma Science, 2002, 30, 2089-2094.	1.3	62
13	Low-Energy Plasma Focus as a Tailored X-Ray Source. Journal of Fusion Energy, 2000, 19, 143-157.	1.2	61
14	Diagnostics of nitrogen plasma by trace rare-gasâ€“optical emission spectroscopy. Journal of Applied Physics, 2005, 98, 103303.	2.5	61
15	Spectral study of the electron beam emitted from a 3â€‰kJ plasma focus. Plasma Sources Science and Technology, 2005, 14, 549-560.	3.1	60
16	Nitriding of titanium by using an ion beam delivered by a plasma focus. Journal Physics D: Applied Physics, 2007, 40, 769-777.	2.8	60
17	Characteristics of x-rays from a plasma focus operated with neon gas. Plasma Sources Science and Technology, 2002, 11, 377-382.	3.1	54
18	Study of neutron emission in a low-energy plasma focus with Â-source-assisted breakdown. Plasma Sources Science and Technology, 2003, 12, 443-448.	3.1	54

#	Article	IF	Citations
19	Title is missing!. Plasma Sources Science and Technology, 2000, 9, 592-596.	3.1	52
20	Comparative study of low energy Mather-type plasma focus devices. Plasma Sources Science and Technology, 1995, 4, 117-124.	3.1	51
21	Enhanced copper K-alpha radiation from a low-energy plasma focus. Applied Physics Letters, 2001, 78, 877-879.	3.3	51
22	Amorphization of silicon by ion irradiation in dense plasma focus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 352, 150-154.	2.1	46
23	Synthesis of nano-crystalline zirconium aluminium oxynitride (ZrAlON) composite films by dense plasma Focus device. Applied Surface Science, 2009, 255, 6132-6140.	6.1	46
24	Deposition of zirconium carbonitride composite films using ion and electron beams emitted from plasma focus device. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 2228-2234.	1.4	45
25	Soft X-ray Imaging using a Neon Filled Plasma Focus X-ray Source. Journal of Fusion Energy, 2004, 23, 49-53.	1.2	44
26	X-ray emission from a plasma focus with high-Zinserts at the anode tip. Plasma Sources Science and Technology, 2003, 12, 199-204.	3.1	43
27	Effects of helium gas mixing on the production of active species in nitrogen plasma. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 359, 499-503.	2.1	42
28	Plasma Focus as a High Intensity Flash X-Ray Source for Biological Radiography. Journal of Fusion Energy, 2003, 22, 195-200.	1.2	41
29	Diagnostic of 13.56 MHz RF sustained Arâ€“N₂plasma by optical emission spectroscopy. EPJ Applied Physics, 2009, 45, 11002.	0.7	41
30	Effect of cathodic cage size on plasma nitriding of AISI 304 steel. Materials Letters, 2016, 181, 78-81.	2.6	41
31	Enhanced surface properties of plain carbon steel using plasma nitriding with austenitic steel cathodic cage. Materials and Design, 2016, 108, 745-753.	7.0	41
32	Novel duplex cathodic cage plasma nitriding of non-alloyed steel using aluminum and austenite steel cathodic cages. Journal of Alloys and Compounds, 2017, 721, 307-311.	5.5	40
33	Nitrogen ion implantation of silicon in dense plasma focus. Nuclear Instruments & Methods in Physics Research B, 2006, 252, 219-224.	1.4	39
34	ROLE OF ANODE LENGTH IN A MATHER-TYPE PLASMA FOCUS. Modern Physics Letters B, 1992, 06, 593-597.	1.9	38
35	Surface modification of AlFe1.8Zn0.8 alloy by using dense plasma focus. Vacuum, 2006, 81, 291-298.	3.5	38
36	On the plume splitting of pulsed laser ablated Fe and Al plasmas. Physics of Plasmas, 2010, 17, .	1.9	38

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37	Enhanced and reproducible neutron emission from a plasma focus with pre-ionization induced by depleted uranium (U238). Plasma Physics and Controlled Fusion, 2006, 48, 745-755.	2.1	37
38	Enhanced wear and corrosion resistance of AISI-304 steel by duplex cathodic cage plasma treatment. Surface and Coatings Technology, 2019, 375, 34-45.	4.8	37
39	Deposition of diamond-like carbon film using dense plasma focus. Materials Chemistry and Physics, 2007, 103, 235-240.	4.0	35
40	Influence of pulsed power supply parameters on active screen plasma nitriding. Surface and Coatings Technology, 2016, 300, 67-77.	4.8	34
41	Effect of insulator sleeve length on neutron emission in a plasma focus. Physics Letters, Section A: General, Atomic and Solid State Physics, 1989, 137, 39-43.	2.1	32
42	Dense plasma focus ion-based titanium nitride coating on titanium. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 1911-1917.	1.4	32
43	Plasma focus assisted carburizing of aluminium. Thin Solid Films, 2009, 517, 6777-6783.	1.8	32
44	Carburizing of zirconium using a low energy Mather type plasma focus. Surface and Coatings Technology, 2011, 205, 3012-3019.	4.8	30
45	The effect of argon admixing on nitriding of plain carbon steel in N2 and N2-H2 plasma. Surface and Coatings Technology, 2018, 350, 48-56.	4.8	29
46	Study of Lateral Spread of Ions Emitted from 2.3 kJ Plasma Focus with Hydrogen and Nitrogen Gases. Journal of Fusion Energy, 2002, 21, 217-220.	1.2	28
47	The nitriding of aluminium by dense plasma focus. Plasma Sources Science and Technology, 2006, 15, 295-301.	3.1	28
48	Langmuir probe characterization of nitrogen plasma for surface nitriding of AISI-4140 steel. Journal of Materials Processing Technology, 2008, 199, 363-368.	6.3	28
49	SOFT X-RAY EMISSION IN THE (1.0â€“1.5 KEV) WINDOW WITH NITROGEN FILLING IN A LOW ENERGY PLASMA FOCUS. Modern Physics Letters B, 2002, 16, 309-318.	1.9	27
50	Comparative studies of X-ray emission from a plasma focus with different metal inserts at the anode tip. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 349, 236-244.	2.1	27
51	Effect of insulator sleeve material on neutron emission from a plasma focus. Physica Scripta, 1992, 46, 152-154.	2.5	25
52	Correlation Study of Ion, Electron and X-ray Emission from Argon Focus Plasma. Physica Scripta, 1998, 57, 136-141.	2.5	25
53	Improved surface properties of AISI-304 by novel duplex cathodic cage plasma nitriding. Materials Letters, 2017, 189, 213-216.	2.6	25
54	X-ray enhancement from a plasma focus by inserting lead at the anode tip. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 319, 181-187.	2.1	24

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55	Characterization of Argon Plasma by Use of Optical Emission Spectroscopy and Langmuir Probe Measurements. International Journal of Modern Physics B, 2003, 17, 2749-2759.	2.0	24
56	Effect of neon mixing on vibrational temperature of molecular nitrogen plasma generated at 13.56 MHz. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 1462-1468.	2.1	24
57	Influence of cathodic cage diameter on mechanical properties of plasma nitrided AISI 304 steel. Surface and Coatings Technology, 2017, 309, 738-748.	4.8	23
58	Influence of insulator contamination by copper evaporation on neutron yield in a low-energy plasma focus. Plasma Physics and Controlled Fusion, 1993, 35, 689-692.	2.1	22
59	SYNTHESIS OF ZIRCONIUM OXYNITRIDE (ZrON) NANOCOMPOSITE FILMS ON ZIRCONIUM SUBSTRATE BY DENSE PLASMA FOCUS DEVICE. International Journal of Modern Physics B, 2008, 22, 3941-3955.	2.0	22
60	Investigation of plume expansion dynamics and estimation of ablation parameters of laser ablated Fe plasma. Journal Physics D: Applied Physics, 2009, 42, 135504.	2.8	21
61	Enhancement of the electrical properties of carbon nanotubes with Arâ€“N2 plasma treatment. Current Applied Physics, 2013, 13, 567-575.	2.4	21
62	DLC coating on stainless steel by pulsed methane discharge in repetitive plasma focus. Applied Surface Science, 2014, 303, 187-195.	6.1	21
63	Langmuir probe and spectroscopic studies of RF generated helium-nitrogen mixture plasma. European Physical Journal D, 2008, 47, 395-402.	1.3	20
64	Carbonitriding of silicon using plasma focus device. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2009, 27, 381-387.	2.1	20
65	Soft X-Ray Emission Optimization Study with Nitrogen Gas in a 1.2 kJ Plasma Focus. Journal of Fusion Energy, 2001, 20, 113-115.	1.2	19
66	Study of the x-ray emission scaling law in a low energy plasma focus. Plasma Sources Science and Technology, 2004, 13, B7-B13.	3.1	19
67	Metrology of non-thermal capacitively coupled N2â€“Ar mixture plasma. Optics Communications, 2013, 296, 72-78.	2.1	19
68	Correlation of plasma electron temperature with neutron emission in a low-energy plasma focus. IEEE Transactions on Plasma Science, 2001, 29, 62-68.	1.3	18
69	Spectroscopic optimization of abnormal glow conditions for plasma ion nitriding. EPJ Applied Physics, 2005, 32, 45-52.	0.7	18
70	Enhanced and reproducible X-ray emission in a low-energy plasma focus. Europhysics Letters, 2006, 73, 42-48.	2.0	18
71	X-ray emission scaling law from a plasma focus with different anode tip materials (Cu, Mo, and W). Journal of Applied Physics, 2006, 100, 073301.	2.5	18
72	Pulsed ion beam-assisted carburizing of titanium in methane discharge. Chinese Physics B, 2010, 19, 012801-10.	1.4	18

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73	The effect of pre-ionization by a shunt resistor on the reproducibility of plasma focus x-ray emission. Plasma Sources Science and Technology, 2006, 15, 314-321.	3.1	17
74	Determination of excitation temperature and vibrational temperature of the N₂(Câ€‰³Î_u, Î½â€²) state in Neâ€“N₂RF discharges. Plasma Sources Science and Technology, 2008, 17, 025005.	3.1	17
75	Plasma nitriding of aluminium in a pulsed dc glow discharge of nitrogen. EPJ Applied Physics, 2010, 49, 21001.	0.7	17
76	Effect of helium mixing on excitation temperature and nitrogen dissociation in inductively coupled plasma. Current Applied Physics, 2013, 13, 969-974.	2.4	17
77	Neutron and x-ray emission studies in a low energy plasma focus. Physica Scripta, 1996, 53, 360-363.	2.5	15
78	Hydrogen Balmer-Î² and Balmer-Î³ emission profiles in an abnormal glow region of hydrogen plasma. Vacuum, 2006, 80, 574-580.	3.5	15
79	Comparative study of electron temperature and excitation temperature in a magnetic pole enhanced-inductively coupled argon plasma. Current Applied Physics, 2013, 13, 1241-1246.	2.4	15
80	Effect of insulator sleeve contamination on the low energy plasma focus performance. Fusion Engineering and Design, 1994, 23, 359-365.	1.9	14
81	Effect of pulsed duty cycle control on tribological and corrosion properties of AISI-316 in cathodic cage plasma nitriding. Materials Research Express, 2017, 4, 116507.	1.6	14
82	Study of molybdenum K-series line radiation emission from a low energy plasma focus. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 302, 23-27.	2.1	13
83	Catalytic action of Î² source on x-ray emission from plasma focus. Review of Scientific Instruments, 2006, 77, 013504.	1.3	13
84	Depleted uranium (U23892) induced preionization for enhanced and reproducible x-ray emission from plasma focus. Applied Physics Letters, 2006, 89, 061503.	3.3	13
85	Co-deposition of titanium and iron nitrides on SS-321 by using plasma focus. Radiation Effects and Defects in Solids, 2006, 161, 121-129.	1.2	13
86	Deposition of Diamond-like Carbon Films using Graphite Sputtering in Neon Dense Plasma. Plasma Chemistry and Plasma Processing, 2007, 27, 127-139.	2.4	13
87	Effect of Excitation and Vibrational Temperature on the Dissociation of Nitrogen Molecules in Ar-N₂Mixture RF Discharge. Spectroscopy Letters, 2011, 44, 194-202.	1.0	13
88	Characterization of 13.56 MHz RF Neâ€“N₂mixture plasma using intrusive and non-intrusive diagnostic techniques. Physica Scripta, 2013, 88, 045503.	2.5	13
89	Investigation of plasma parameters in an active screen cage-pulsed dc plasma used for plasma nitriding. Radiation Effects and Defects in Solids, 2014, 169, 893-905.	1.2	13
90	Characterization of RF He-N2/Ar mixture plasma via Langmuir probe and optical emission spectroscopy techniques. Physics of Plasmas, 2016, 23, .	1.9	13

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91	Non-intrusive measurement of electron, vibrational, rotational temperatures and active species concentration in N2-H2 cathodic cage plasma. Surface and Coatings Technology, 2018, 344, 233-243.	4.8	13
92	Optimization Study of Pulsed DC Nitrogen-Hydrogen Plasma in the Presence of an Active Screen Cage. Plasma Science and Technology, 2014, 16, 460-464.	1.5	12
93	A SIMPLE PRESSURIZED SPARKGAP FOR PLASMA FOCUS OPERATION. Modern Physics Letters B, 1993, 07, 835-840.	1.9	11
94	X-ray emission from 30 J Blumlein operated compact diode. Journal of Applied Physics, 2000, 88, 1251-1256.	2.5	11
95	Low Energy Plasma Focus as an Intense x-ray Source for Radiography. Plasma Science and Technology, 2004, 6, 2296-2300.	1.5	11
96	Influence of the filling gas on plasma focus assisted diamondlike carbon coating at room temperature. Journal of Applied Physics, 2007, 101, 063307.	2.5	11
97	Pressure range broadening for a plasma focus operation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 186, 335-338.	2.1	10
98	Mode transition in magnetic pole enhanced inductively coupled argon plasmas. European Physical Journal D, 2012, 66, 1.	1.3	10
99	Deuteron Beam Source Based on Mather Type Plasma Focus. Journal of Fusion Energy, 2013, 32, 287-292.	1.2	10
100	Influence of magnetic probe presence on current sheath dynamics in plasma focus operation. Fusion Engineering and Design, 1997, 36, 437-446.	1.9	9
101	Glow Discharge Plasma Nitriding of AISI 304 Stainless Steel. Plasma Science and Technology, 2007, 9, 463-468.	1.5	9
102	Effect of anode shape on correlation of neutron emission with pinch energy for a 2.7kJ Mather-type plasma focus device. Journal of Applied Physics, 2009, 106, 023311.	2.5	9
103	Effects of laser energy fluence on the onset and growth of the Rayleighâ€“Taylor instabilities and its influence on the topography of the Fe thin film grown in pulsed laser deposition facility. Physics of Plasmas, 2012, 19, .	1.9	9
104	Optical emission spectroscopy of the active species in nitrogen plasma. Plasma Devices and Operations, 2006, 14, 61-70.	0.6	8
105	Characterization of nonthermal Neâ€“N2 mixture radio frequency discharge. Journal of Applied Physics, 2008, 104, 123304.	2.5	8
106	Evolution of plasma parameters in a He-N2/Ar magnetic pole enhanced inductive plasma source. Physics of Plasmas, 2016, 23, .	1.9	8
107	Improved temperature measurement in a plasma focus by means of a cobalt filter. Plasma Sources Science and Technology, 2001, 10, 295-301.	3.1	7
108	The correlation of x-ray emission with pinch energy in a 1.5â€‰kJ plasma focus. Plasma Sources Science and Technology, 2007, 16, 587-592.	3.1	7

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109	Plasma characterization for nitridation of aluminium alloy using 50ÂHz ac discharge. Plasma Devices and Operations, 2008, 16, 247-266.	0.6	7
110	Effect of preionization on the axial run-down velocity, focus amplitude and current sheath formation in 3.3ÂkJ small He plasma. Radiation Effects and Defects in Solids, 2013, 168, 10-17.	1.2	7
111	Deposition of titanium nitride on AISI-304 in a plasma focus environment. EPJ Applied Physics, 2008, 42, 145-151.	0.7	6
112	Tailoring a plasma focus as hard x-ray source for imaging. Applied Physics Letters, 2010, 96, 031501.	3.3	6
113	Evolution of plasma parameters in an Arâ€“N₂/He inductive plasma source with magnetic pole enhancement. Plasma Science and Technology, 2017, 19, 025402.	1.5	6
114	Comparative study of X-ray emission from plasma focus relative to different preionization schemes. Plasma Physics Reports, 2017, 43, 749-755.	0.9	6
115	Langmuir probe study of an inductively coupled magnetic-pole-enhanced helium plasma. Plasma Physics Reports, 2017, 43, 588-593.	0.9	6
116	EFFECT OF PLASMA OXIDE SURFACE COATING OF ELECTRODES ON IMPURITY LEVEL AND PLASMA PARAMETERS. International Journal of Modern Physics B, 2004, 18, 1687-1696.	2.0	5
117	Generation of titanium K-radiation in a 1ÂkJ plasma focus. Plasma Devices and Operations, 2004, 12, 305-312.	0.6	5
118	Reactive sputter-deposition of AlN films by dense plasma focus. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 2122-2127.	2.1	5
119	Optical actinometry of the N-atom density in nitrogen plasma. Plasma Devices and Operations, 2007, 15, 87-93.	0.6	5
120	STUDY OF PLASMA FOCUS AS A HARD X-RAY SOURCE FOR NON-DESTRUCTIVE TESTING. Modern Physics Letters B, 2007, 21, 1643-1650.	1.9	5
121	Enhancing soft X-ray emission with depleted uranium in neon plasma focus. EPJ Applied Physics, 2009, 48, 21001.	0.7	5
122	Effect of preionization on soft x-ray emission and plasma dynamics in a small plasma focus system. Journal of Applied Physics, 2010, 107, 073301.	2.5	5
123	Effect of insulator sleeve material on the x-ray emission from a plasma focus device. Physics of Plasmas, 2010, 17, 092705.	1.9	5
124	Investigation of 50 Hz Pulsed DC Nitrogen Plasma with Active Screen Cage by Trace Rare Gas Optical Emission Spectroscopy. Plasma Science and Technology, 2014, 16, 324-328.	1.5	5
125	Optical emission spectroscopy of 50â€…Hz pulsed dc nitrogenâ€“hydrogen plasma in the presence of active screen cage. Radiation Effects and Defects in Solids, 2016, 171, 384-397.	1.2	5
126	Sequential focusing in a mather-type plasma focus. Physica Scripta, 1993, 47, 814-816.	2.5	4

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127	A Simple Technique to Record X-Ray Fluence Anisotropy of a Source. Journal of Fusion Energy, 2001, 20, 69-73.	1.2	4
128	Trace-Rare-Gas Optical Emission Spectroscopy of Nitrogen Plasma Generated at a Frequency of 13.56 MHz. Plasma Science and Technology, 2011, 13, 208-212.	1.5	4
129	Optical emission spectroscopy of Heâ€“N₂mixture plasma. Radiation Effects and Defects in Solids, 2015, 170, 668-678.	1.2	4
130	Optical Emission and Langmuir Probe Diagnostic Measurements in DC Electrode Pulse Discharge in Nitrogen. High Temperature, 2019, 57, 821-831.	1.0	4
131	Investigation of magnetic-pole-enhanced inductively coupled nitrogen-argon plasmas. Journal of Applied Physics, 2012, 112, 063305.	2.5	3
132	Correlation between excitation and electron temperature in 50 Hz pulsed Arâ€“O2 mixture plasma. Optik, 2016, 127, 3312-3315.	2.9	3
133	Measurement of the plasma electron density and temperature from Stark-broadened HÎ² and HÎ³ emission profiles. Plasma Devices and Operations, 2006, 14, 99-109.	0.6	2
134	Reliable Field Distortion Spark Gap for Plasma Focus. Plasma Science and Technology, 2007, 9, 504-507.	1.5	2
135	X-ray Emission from Plasma Focus: Envisioned by Various Competitive Detectors. Journal of Fusion Energy, 2009, 28, 124-129.	1.2	2
136	Vibrational Distribution of N₂(C, Î½) State in a Pulsed-DC Generated N₂â€“Ar Glow Discharge. Spectroscopy Letters, 2010, 43, 259-265.	1.0	2
137	Correlation of Neutron and X-ray Emission from Plasma Focus with Pre-ionization. Journal of Fusion Energy, 2014, 33, 720-725.	1.2	2
138	Effect of methane concentration on surface properties of cathodic cage plasma nitrocarburized AISI-304. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	2.3	2
139	TEMPORAL CORRELATION OF NEUTRONS, ION BEAM, AND HIGH VOLTAGE PROBE SIGNALS IN A LOW ENERGY PLASMA FOCUS. Modern Physics Letters B, 1994, 08, 393-398.	1.9	1
140	A COST EFFECTIVE X-RAY DETECTOR FOR PLASMA FOCUS DIAGNOSTICS. Modern Physics Letters B, 2000, 14, 563-570.	1.9	1
141	X-rays emission from a compact diode energized by capacitor discharge. EPJ Applied Physics, 2005, 29, 91-97.	0.7	1
142	Enhancement of X-ray emission in the side on direction in a Mather-type plasma focus. European Physical Journal D, 2006, 38, 337-341.	1.3	1
143	Soft X-ray emission from preionized He plasma in a 3.3ÂkJ Mather type plasma focus device. Plasma Devices and Operations, 2009, 17, 257-264.	0.6	1
144	A Report on H mode in Magnetic Pole Enhanced Inductively Coupled Nitrogen Plasmas. Contributions To Plasma Physics, 2013, 53, 492-502.	1.1	1

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145	Reply to Comment on â€˜Determination of excitation temperature and vibrational temperature of the N₂(Câ€‰³Î_u, Î½â€²) state in Neâ€“N₂RF dischargesâ€™. Plasma Sources Science and Technology, 2009, 18, 018002.	3.1	